# ABSTRACT

An apparatus, data structures, and method are provided for prioritizing data transmissions within a network. As applied to a switching station in a network, the method prioritizes transmissions from the network to determine which packets should be transmitted from the switching station first when multiple packets are routed to the same outgoing port of the switching station. A packet prioritization station is provided, preferably as an add-on to the switching station. The packet prioritization station has a cache in which the destination address of each incoming packet is associated with every origin from which it has received a transmission within a certain time period. The packet prioritization station operates to give priority to transmissions to those destinations that have a higher number of associated origins. Thus, packets that are probably en route to time-critical users or groups of users will be sent before those that are less time-sensitive.